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NOTES FOR AN ADDRESS

BY

THE HONOURABLE DONALD S. MACDONALD,

MINISTER OF ENERGY, MINES AND RESOURCES,

TO THE

1972 WESTERN AREA CONFERENCE
OF THE FINANCIAL EXECUTIVES INSTITUTE

Victoria, British Columbia May 19, 1972.

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Mr. Chairman and conference participants,

The holding of your Institute meeting in British Columbia with its consequent general interest in Canadian economic affairs and its particular interest in the development of Canadian energy resources takes place at a key time in the public debate on these issues in Canada. New information on Canada's frontier energy sources is coming in almost daily and decisions are being taken about energy in Canada, the United States and other parts of the world, some appearing in headlines and some not, which are shaping the nature of things to come. I believe that at no time in recent years has the focus of concern--both public and private--fixed so intently on the economics of Canada's nationhood. We are facing challenges at home in the development of our economic growth which are paralleled by compelling international forces which will reshape the marketplaces of the Free World from Europe to the Pacific Rim. We find ourselves at a crossroads in the economic future of our country, independently studying our options, our industrial and resource strategies, weighing the opportunities and the consequences of national responses to a rapidly altering international climate.

Because of the timeliness of your interest and the general economic expertise which is yours I welcome the opportunity to address the 1972 Western Area Conference of the Financial Executives Institute.

What are some of the events in the current economic situation? In the weeks leading up to your meeting, Canadians have heard:

1. The practical possibility of a Mackenzie Valley all-purpose transportation corridor composed of an all weather highway, a gas pipeline

and perhaps an oil pipeline linking the nation from north to south;

2. A policy on future foreign direct investment in Canada to orient that foreign investment to work for the benefit of the Canadian economy;

3. A budget that cut corporate taxes and offered job-creating incentives to the Canadian manufacturing and mineral processing sectors as well as protection against inflation to senior citizens, war veterans and others holding government pensions;

4. On the international front, where the monetary system requires effective reforms addressed to trade as well as finance, my colleague, the Minister of Finance, told the International Monetary Fund meeting at Montreal that any changes should evolve through the present system, with the U.S. dollar eventually restored to convertibility and Special Drawing Rights employed to exercise deliberate control over total international liquidity.

If bold initiatives were needed on all these fronts, I can assure you of their pressing nature in the theme of my remarks for this evening: "The Problems of Energy, A Canadian View." Specifically, I want to look at Canadian equity markets and the development of the energy economy.

AN OVERVIEW OF THE ENERGY ECONOMY

Incorporating the latest developments, here is a quick overview of Canada's energy economy as it relates to coal, electricity, oil, gas and nuclear power:

COAL

In western Canada, the Prairie mines of Saskatchewan and Alberta are operating without undue problems in supplying their principal and expanding

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market of the thermal-electric industries of those provinces. However, some of the large mines in the mountain coal fields of Alberta and British Columbia are encountering severe problems in meeting market commitments, particularly with respect to their export sales to Japan. These difficulties arise from a number of technical problems related to the processes of coal production and coal preparation. Very heavy capital expenditures have been made by the mine operators in attempting to build up their coal producing capacity to meet market commitments. Failure to meet all these commitments and obtain a reasonable return on capital invested is of pressing concern.

A related issue is the Supreme Court of Canada reversal of an earlier decision by the Canadian Transport Commission. The C.T.C. disallowed an application by Crows Nest Industries Limited to rebuild the Kootenay and Elk Railway from the Crows Nest coal field in British Columbia to connect with the lines of the Burlington Northern Railway Company in Montana. The Supreme Court action could divert substantial tonnages of Canadian export coal from the Canadian Pacific Railway to the U.S. line.

With respect to Canada's own coal requirements, the chief consumers are the three steel producing companies of southern Ontario and the Ontario Hydro Commission. For geographical and economic reasons these have been traditionally supplied by coal produced in the eastern United States. This constitutes a foreign dependency that is being rendered uneasy by progressively rising prices of the U.S. coals and by a decreasing assurance that the quality of the coal will be maintained. These problems arise from the strongly growing demand within the United States for its own coal.

Total demand for coal in Canada in 1972 will be 31.8 million tons. Production is expected to total 22.3 million tons for Canadian consumption

and exports while imports are estimated at 19.8 million tons.

By the year 2,000 it's expected total consumption will reach 150 million tons. The capital requirement to achieve this level of consumption in current dollars would be in the neighborhood of $2 1/2 billion.

A significant longer term development is expected to be the gasification of coal for consumption in Ontario and other markets in addition to the prairies where much of this conversion would take place, and the cost of gasification plants alone could add capital requirements running in the billion dollar range.

ELECTRICAL ENERGY 1970 - 2000

Canada's electrical energy needs have in the past been met predominantly from hydroelectric sources and even today Canada's total hydroelectric energy production is exceeded only by the United States - although hydroelectric energy produces only about 15 percent of U.S. total needs compared with 75 percent for Canada. Only Norway exceeds Canada in per capita consumption of electrical energy and among the world's major electrical energy producers only Norway and Sweden exceed Canada's percentage dependence on water power (99.8% and 87% respectively).

The predominance of hydraulic energy sources is changing quite rapidly in spite of large scale hydroelectric construction in British Columbia, Manitoba, Quebec and Labrador and it is expected that by the end of the century only 30 percent of Canada's electrical energy needs will be met from hydraulic sources. This results from the fact that many of the more attractive hydroelectric resources have already been developed, and that some remaining resources lie far from the areas of load demand so that the cost penalty of

long distance transmission is added to the generation cost.

Canada has both a substantial choice of alternative energy resources for electric power generation and a well-developed technology to construct generating plants. Coal, oil, gas and uranium are all available from domestic sources although the economic choice between these alternatives varies, from one region of the country to another and in some regions imported oil is lower in cost than the domestic source. The application of nuclear plants requires large generating units and large interconnected power systems so the economics of this choice is at present restricted to those regions with most intensive demand.

Whatever the exact mix of choice in generation sources - and Canada is fortunate in having a wide choice - the capital resources required to meet the growing demands for electrical energy will continue to be large. The current annual rate of capital expenditure in the electric utility industry is about $1.8 billion representing 15 percent of total business investment. About half of this investment is devoted to generation and the balance to transmission, distribution and other utility items.

Looking ahead to the year 2000 it seems likely that at least $100 billion will be required for the growth capital needs of the electric utilities to meet an electrical energy demand approaching seven times the current level.

NUCLEAR POWER

Canada's nuclear power production exceeds 1,000 megawatts in 1972 with the prospect that output will double within a year as Pickering 3 reaches full power and Pickering 4 comes on stream in 1973.

A shortage of heavy water will act as a constraint until 1975 with intermittent shutdowns at smaller reactors such as Douglas Point and Gentilly until heavy water production catches up with demand.

By 1980, it's expected we'll have 7,000 to 8,000 megawatts of nuclear power. Canada will have additional capacity of 3,000 megawatts at the Bruce reactor by 1978 or 1979 with another 2,000 megawatts expected in Ontario, New Brunswick, Quebec and or British Columbia. There's a possibility that an organic-cooled station might be erected in Manitoba but British Columbia has to be considered an attractive location as well.

Total cost involved in building a nuclear plant including projected escalation and interest costs during the five to six year construction period amounts to about $450 per kilowatt. The figure includes costs of all heavy water in the reactor and substantial capitalization of the initial fuel charge.

Canada will need an estimated 110,000 tons of uranium for its own nuclear program between now and the end of the century. The United States alone may need three million tons between 1970 and the year 2,000. Requirements for the balance of the Western world would bring the total to six to eight million tons by the year 2,000.

Total proven reserves of world uranium at prices under $10 a pound are estimated at 1 million tons.

Thus a projected capital expenditure for Canada of some $2 to $3 billion is not unrealistic for this phase of the energy gap over the next 25 years. The world total, based on six million tons of new uranium requirements, would run in the order of $15 billion for new facilities by the late 1990's.

A RECORD YEAR FOR OIL EXPORTS

Canada will have a record year for oil exports in 1972, with approximately half of total production finding its way to high-priced and hungry U.S. markets.

Canada's current exports of oil to the United States are running at approximately 130,000 barrels a day above the new quota set last week by the U.S. President and the United States currently relies on Canada for shipments of an average million barrels daily so that the new quota figure has little relationship to actual exports.

The President announced increased quotas of 230,000 barrels daily on an annual basis of which Canada gets 30,000 barrels. The quota increase was largely to meet rising demands in New England markets.

The latest increase brings Canada's quota to 570,000 barrels daily in districts east of the Rockies- but Canada also supplies 300,000 barrels daily to the U.S. West Coast market plus other products which bring total shipments to the million barrel mark.

In the 1950's, the U.S. was an exporter of petroleum. Since 1967, the U.S. has become dependent on imports. By 1980, the U.S. will import half its requirements - about 12 million barrels per day. By 1980, the U.S. demand for natural gas will be in excess of 30 trillion cubic feet - with domestic supplies to cover only 15 trillion cubic feet. These figures have obvious implications for Canada.

RESOURCE ADEQUACY: CRITICAL IN THE ENERGY EQUATION

Oil and natural gas, in 1970, made up about two-thirds of our primary energy consumption. Even if electrical energy, increases substantially over

the next thirty years, principally through the increased importance of nuclear power, Canada's requirements for oil and natural gas in the year 2000 may well be three or four times the amounts used in 1970.

Just to meet Canadian requirements, we can expect to need additional reserves approximately equal to all proven reserves to date. In addition, if we want to maintain, say, 15 years petroleum reserves on hand, these additional reserves should be identified over the next ten years. Even with a fairly satisfactory tar sands development, most of the additional reserves are likely to have to come from the new frontier areas - the Arctic mainland and islands, and possibly offshore on the East Coast.

The tie-in of the reserve picture with exports and imports of oil and natural gas is apparent.

In recent years, Canada has been running a rapidly increasing surplus of exports over imports of oil and natural gas. A continuation of the rapid increase in net exports could press hard on readily available reserves within ten or fifteen years.

Petroleum, coming from either new frontier areas or from the tar sands, is likely to be high cost by today's standards.

The increasing costs from sources within Canada will co-exist with rising prices in world markets. These changing relationships, together with the size and location of new reserves, will face Canadians with new choices regarding both the export and import of oil and natural gas. Whatever choices are made will have profound national and regional impacts.

SECURITY OF SUPPLY

Almost as important as the economics of oil or gas developments, at least in some minds, are some very vague notions about this concept of the security of supply. In our oil and gas dealings with the United States, for example, I have found the definition of this issue elusive in the weeks and months I've spent trying to understand Canada-U.S. relations in these areas. And I hope we can have an early and substantive exchange of views to clarify the U.S. position. In my view, Canada has and will continue to be a secure supplier of petroleum products to U.S. markets.

Yet the decision to proceed with the TAP's pipeline revealed the U.S. desire expressed by Interior Secretary Rogers Morton to approve the route in part because the U.S. would retain total jurisdiction and exclusive use of the pipeline moving Prudhoe Bay oil southward to markets.

A condition that Canada could not benefit by the transport of Canadian oil or gas in a pipeline crossing near major Canadian reserves would never be acceptable for either gas or oil pipelines through Canada to the U.S.

Canadian Government pipeline guidelines issued in August, 1970, stated that any such facilities must be a common carrier, providing access for Canadian petroleum resources.

ENVIRONMENTAL IMPACT

The decision to proceed with the TAPS route could, of course, have a serious environmental impact here on the west coast. It's my understanding that permits to build the line will only be issued after matters currently before the U.S. courts have been resolved.

Those of you in British Columbia realize that in February, 1971, a unanimous decision of the British Columbia legislature requested the federal government to make representations to the United States government relative to protection from oil spills on the West coast.

By a unanimous vote, the House of Commons on May 15, 1972, agreed to a motion which read:

> "That this House herewith declares that the movement of oil by tanker along the coast of British Columbia from Valdez in Alaska to Cherry Point in Washington is inimical to Canadian interests especially those of an environmental nature,
>
> And further, that this resolution be forthwith transmitted to the government of the United States of America in order that that government be apprised of the concern that the House of Commons of Canada has about the proposed movement of oil."

We are still far from assured that our coastline will be adequately protected from the hazards of major oil spills resulting from stepped up tanker traffic and our representations for protection will continue.

SOURCES OF CAPITAL

In the fall of 1970, a study of a group of Canadian petroleum companies[1] by the National Energy Board showed slightly over a third of capital requirements were generated internally while the remainder was evenly distributed between equity, short and long term debt and other financing. Preferred stock accounted for only one per cent of the total that year.

The Group's
Sources of Invested Capital During the 1960's
(Percentage)

	Preferred Stock	Common Stock	Retained Earnings	Long-Term Debt	Short-Term Debt & Other Financing
1961	.4	31.7	32.5	14.5	20.9
1962	.3	27.4	31.3	14.6	26.4
1963	.3	28.9	29.8	16.3	24.7
1964	.6	27.5	31.5	16.3	24.1
1965	.6	26.5	33.6	16.3	23.3
1966	1.0	25.0	38.5	15.8	19.7
1967	1.7	23.7	38.2	17.4	19.0
1968	1.2	22.9	37.7	17.4	20.8
1969	1.1	21.6	36.8	20.9	19.6
1970	1.0	20.6	36.7	20.6	21.1

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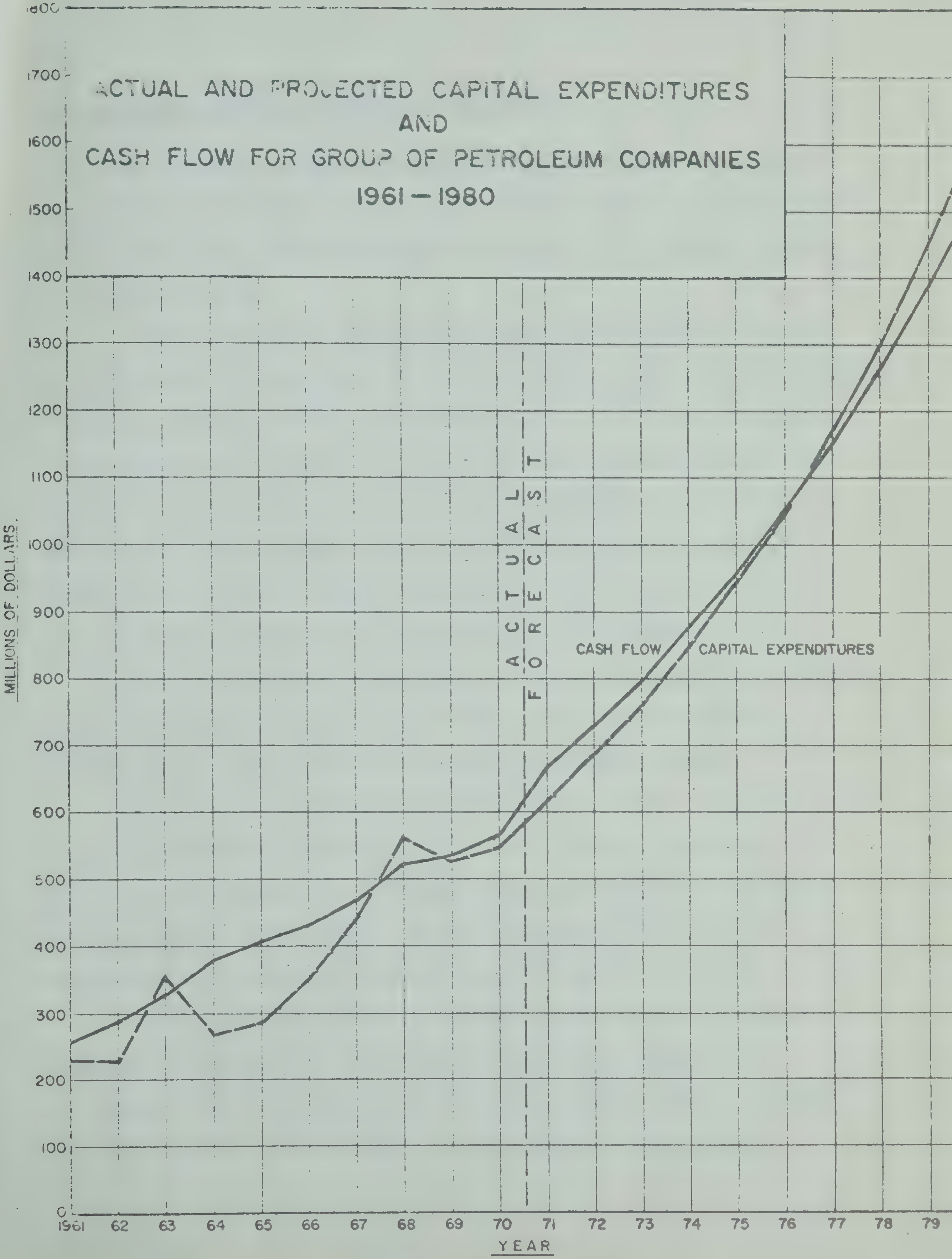
[1] Companies in the group were Dome, Gulf, Home, Hudson's Bay Oil and Gas, Husky, Imperial, Pacific Petroleums, Shell and Texaco. Combined operations accounted for 43 pc of Canada's crude oil production and 88 per cent of its refining capacity. Companies engaged in production alone show similar experience.

CASH FLOW VS. CAPITAL EXPENDITURES

In the transition of Canadian exploration from traditional to frontier areas, multiple increases in spending will occur and successful development will most likely depend on prolific reservoirs being found. There is no sure way of predicting the discovery success of the industry, but it is clear that the time at which promising finds are made could be critical for the fund-raising prospects of the industry.

The recent exploration successes of Panarctic Oils illustrate this point--with the Tenneco agreement to spend $75 million on exploration to earn rights to gas for export which will only be available after Canadian requirements are satisfied.

A comparison of projected cash flow and forecasted capital expenditures was based on 1970 data. The board extrapolated historic data on cash flow and based future capital expenditures on industry forecasts. On the implicit assumptions made it appears that the industry may well face an acute problem financing its capital requirements in the late 1970's. Given the limitations of forecasting in this field, however, it would appear prudent to emphasize the direction of the trends shown rather than their point of intersection.



ACTUAL AND PROJECTED CAPITAL EXPENDITURES
AND
CASH FLOW FOR GROUP OF PETROLEUM COMPANIES
1961 — 1980

NATIONAL ENERGY BOARD, JULY 14, 1971

DRAWING NO.— 115

CAPITAL EXPENDITURES IN THE PETROLEUM INDUSTRIES

For those of you who might like a more detailed review of capital expenditures by petroleum, natural gas and allied industries in Canada from 1951 to 1972, I have attached to the notes for my talk, a breakout prepared by Statistics Canada.

Capital invested in the extractive phase of petroleum and natural gas is expected to total about $588 million in 1972, up approximately a million dollars from 1971 and five times the 1951 figure. Rail, water and pipeline transportation outlays will climb to $445 million, marketing adds another $100 million while natural gas distribution facilities will cost close to $120 million, refining adds $277 million and natural gas processing yet another $140 million to capital intentions for 1972. Capital outlays of the next decade are estimated at $25 billion for this sector as a whole.

With this overview of the energy economy in Canada and its growing demand for capital, let me turn to the theme of my talk and examine Canadian equity markets in the development of the energy economy.

By the end of 1969 the world oil industry estimated their cumulative capital expenditures to have amounted to $191.5 billions. While half of this amount was invested in the United States, two thirds of it was owned by United States' corporations. Canada, therefore, is not alone in experiencing a high degree of foreign control of its oil industry.

Canada, however, may have a very special problem on its hands in experiencing the magnitude of capital investment which appears likely to take place in the coming decade. Our economy is much more diversified and developed than those of most oil rich countries outside the U.S.

We have a high standard of living, an advanced manufacturing industry and an export-oriented agricultural sector to protect. We also have a fast growing and skilled labour force which we want to provide with jobs. The energy policies we pursue in the coming years will have to consider these factors.

We anticipate capital expenditures of over $20 billions in the Canadian oil industry alone in this decade. Capital outlays by the whole energy sector will likely be - depending on the policies we decide upon - between $50 and $70 billion. Even if we can keep our capital expenditures close to the lower levels of this range, i.e., to $50 billion, only about $20 billion will be internally generated by the companies themselves. The balance will have to be provided by Canadian and foreign capital markets.

It is for this reason that I have chosen to speak today about the Canadian equity markets and how well they serve the energy sector of our economy. Proper equity financing is the basis for viable financing plans for our future energy development. And the equity markets set the tenor for a country's foreign investment patterns.

Let me first take a brief historical look at equity market activities as they relate to the energy sector. In the years between 1963 and 1969 the 52 largest listed energy companies recorded net new equity financing of $2.7 billion. Of this amount roughly $700 million was new cash raised and $2 billion was issued for other considerations which included securities of other corporations. This 2.7 billion equity investment in energy companies resulted in a decreased proportion of portfolio investment opportunities for the public while the proportion of direct investment increased. This leads me to another factor in the analysis of the functioning of equity markets; and that is the degree to

which investors hold the shares of energy companies as a direct investment. This may be taken as an indication of the extent to which investment opportunities are generally available to those who wish to benefit from the potential rewards offered by the resource industries.

To illustrate this point, I'd like to refer to a recent survey of the 200 largest Canadian public corporations which indicates that over 50% of the shares of the 52 largest listed Canadian energy companies was held as direct investment by other corporations. In comparison only 25% of the 148 largest listed non-energy companies' stock was closely held. It is significant to point out that in the energy sector the vast majority of the direct investment was owned by non-residents. The implications for our topic today, however, are twofold: first, it means that even if Canadian investors were willing and able to purchase all the shares listed and not closely held, the companies holding the direct investments would still own the majority of the shares and thus retain absolute control of the companies concerned; and secondly, it means that the diversity of investments necessary to a balanced portfolio was restricted during the past, and remains so now, by the removal of these large blocks of shares from the marketplace, resulting in a narrowing of the Canadian equity markets.

There are indications, however, that the smaller, non-integrated companies have been growing at a faster rate than the larger, integrated companies so that this area may begin to provide more diversified investment choices for the large institutional, as well as for the small, private investor.

The proportions of the energy equity market which the various component industries comprise have undergone considerable shifts during the

decade of the sixties with the growth of the non-integrated oil sector greatly outpacing both the real and relative growth of each of the other sectors. It is reasonable, therefore, to assume that continued growth of this sector in the coming decade would provide a greater measure of diversification and that much of this growth of diversified investment opportunity will be available for portfolio investment.

Many people ask the question: "Have the equity markets, as regards the energy sector, been preempted by foreigners or have non-resident investors simply stepped in to fill the gap left by us?" I do not believe it serves much practical purpose to speculate on the possible answers to this question. It is, however, useful to consider some of the factors determining investment decisions.

An examination of the rate of return on investment during the fast growth years of 1963-69 is quite revealing. I am using the term "rate of return" here to mean the sum of the capital appreciation and dividends received as a return on equity investment. Over this period shareholders would have obtained an average annual return of 13.7% on an investment comprising the 52 largest energy companies' stock. By comparison the Toronto Stock Exchange Industrial index, similarly adjusted to account for dividends received, would have given a return of only 10.1%. The higher volatility of the energy sector, and the larger risks involved with investment in the resource industries, are thus compensated for by a 30% greater rate of return.

The most important single factor in the behaviour of our equity markets are the institutional investors. The way their investment patterns develop over the next few years may be crucial for our country's

and the energy sector's development.

Total assets of insurance companies, pension funds, and mutual funds had risen by the end of 1971 to about $35 billion from $17 billion in 1962. The average rate of increase in assets was over 11% per annum.

The common stock holdings of these institutions increased at an annual rate of about 20%. However, it is worthwhile noting that although these institutions had a fast asset growth rate and that their holdings of common stock grew at an even faster pace, the proportion of their investment in Canadian stocks declined from 71% to 60% during the mid and late sixties. There are many reasons for this phenomenon. Some are technical, some relate to monetary factors. But one of the most important reasons in this present context is the lack of diversification coupled with the high percentage of direct investment resulting in an insufficient number of Canadian shares being made available for investment. This increased the flow of Canadian equity capital to the New York market.

Our new tax legislation is designed to provide more incentives for investment in Canadian stocks. Both pension and mutual funds will have to restrict their foreign investments to 10% of their assets if they wish to qualify for the tax advantages associated with their classification as pension and retirement savings plans. I anticipate that this measure will reverse the declining trend of investment in Canadian equities at a time when the large projects and expenditures in the energy sector will call for the injection of vast amounts of capital.

The other large source of investment capital is the savings of individuals who choose to invest their funds in market instruments rather than leave them on deposit with financial institutions. Our knowledge of

the personal sector's investment behaviour and portfolio preferences is limited. Most statistics relating to these aspects are residual figures and incorporate errors and omissions of the other sectors of our economy. There are, however, clear indications that the statistics -- leading to the myth that Canadians are overly cautious investors by comparison with Americans -- no longer present a wholly accurate picture. It is true that in the older age groups Canadians opt for fixed income securities -- much more so than their American counterparts. But the age composition of our population is fast changing in favour of the younger groups in which we find a quite different pattern.

It is also often overlooked by the proponents of the myth that there is a considerable difference in both the level and the distribution of income between the two countries. In the U.S. there are relatively fewer people and a lower proportion of total income in the lower income brackets and substantially more people and a greater proportion of income in the upper income brackets.

For example, in 1968, 76 per cent of the total income in Canada was attributable to taxpayers with incomes of less than $10,000 compared to 45% for the U.S. Income distribution is, however, in recent years shifting in favour of Canada especially in the high, over $25,000, income bracket. The rate of growth of this category in recent years has been higher in Canada than in the U.S. This trend should mean that investable funds by those who are most likely to invest are becoming more plentiful.

We are thus probably entering an era of very large expenditures upon energy projects of hitherto unforeseen magnitude coupled with a substantially different capital market than that to which we have been accustomed. These differences have evolved from three very significant aspects.

Firstly, there is a conscious effort by this government to create the necessary environment for investment in our own country. The growth opportunities are, no doubt, there. We have provided several tax incentives to foster the attractiveness of the investment, on the one hand by way of aiding its profitability at the corporate level, and on the other hand by way of influencing investment decisions of those who have investable funds and had looked at foreign investment opportunities in the past. Secondly, our economy has greatly matured over the last decade. We have grown, we create more savings, and we are entering a phase in our development when we can lean more heavily on our own resources. This, of course, should not be construed to mean that we no longer need or want foreign help and capital in the development of our economy, but rather that Canadians are capable of carrying a bigger load than they have been carrying and that they should have the opportunity of investing in our future growth. Thirdly, there are important demographic and psychological changes taking place in our society. A growing sense of self-awareness and a shift towards a younger age composition of our population should have a fundamental effect on investment patterns in this country.

In the last few minutes I have taken you on a somewhat cursory guided tour through the labyrinths of our equity markets, especially as they relate to the energy economy. As happens so often on trips with a crowded itinerary, the details may become quite blurred in one's memory but these vague contours nevertheless create a fairly firm overall impression.

The impression I get is that a potential problem arising from the huge capital requirements of the energy industries in the coming years can possibly be - at least partially - offset by coordinating it with the fast growth in the demand for Canadian equities which appears likely to evolve from the three aspects I mentioned a moment ago.

If it were possible to summarize conclusions on such a complex issue in a few words, I would be tempted to say that the past performance of Canadian equity markets, as they relate to the energy industry, leaves a lot to be desired. There are many reasons for this, but we have gone a long way to create the conditions necessary for a substantially improved performance. The future capital requirements of our energy industry may be huge and could create equity demand problems which may be difficult to solve. Our changed equity markets will be put to their biggest test when they are confronted by these demands.

The Prime Minister has made the point: "All the problems in our society cannot be resolved by the government. We have an important coordinating role to play but the main task has to be tackled by the private sectors of the economy."

Groups such as your own will play a significant part in deciding the most effective response to the capital challenges posed in the 1970's and beyond. Individual decisions will indeed be complex, and fundamental in many respects to our future as a nation.

The Government of Canada and the Department which I lead, are conscious of the challenges posed in this area and expect to work closely with the provinces and industry in setting out the priorities for energy and resource development, which have grown so large as to transcend the

boundaries of any single supplier or consumer to involve national economic goals at home and abroad.

Capital Expenditures in the Petroleum and Natural Gas and Allied Industries in Canada, 1951-72(1)

Dépenses en immobilisation pour les industries du pétrole et du gaz naturel ainsi que les industries connexes au Canada, 1951-72(1)

Year — Année	Petroleum and natural gas extraction (3, 4) — Extraction du pétrole et du gaz naturel (3, 4)			Transportation, including rail, water and pipelines — Transportation, y compris transport ferroviaire, eau et pipelines			Marketing (chiefly outlets of oil companies) — Marketing (principalement les débouchés des compagnies de pétrole)			Natural gas distribution — Distribution du gaz			Petroleum refining including lubricants total(2) — Raffineries de pétrole y compris les lubrifiants total(2)	Natural gas processing plants total(2, 3) — Usines de dégazolinage du gaz naturel total(2, 3)
	Construction	Mach. and Equip. — Mach. et outil.	Total	Construction	Mach. and Equip. — Mach. et outil.	Total	Construction	Mach. and Equip. — Mach. et outil.	Total	Construction	Mach. and Equip. — Mach. et outil.	Total		
	millions of dollars — millions de dollars													
1951.....	60.5	11.6	72.1	9.1	1.6	10.7	7.2	10.9	18.1	5.3	1.5	6.8	50.9	
1952.....	76.0	17.1	93.1	75.8	18.8	94.6	13.4	11.6	25.0	5.9	0.4	6.3	60.5	1.3
1953.....	87.1	20.1	107.2	72.8	6.7	79.5	21.1	15.6	36.7	10.6	0.6	11.2	66.1	0.7
1954.....	103.6	23.2	126.8	61.4	3.7	65.1	26.5	19.8	46.3	8.9	0.8	9.7	83.9	8.5
1955.....	173.7	27.9	201.6	44.4	1.6	46.0	35.7	20.8	56.5	9.0	0.4	9.4	102.9	2.9
1956.....	213.3	39.1	252.4	172.8	4.3	177.1	45.4	23.1	68.5	42.0	4.6	46.6	79.1	10.5
1957.....	194.8	43.0	237.8	304.0	6.1	310.1	47.8	27.1	74.9	64.8	5.0	69.8	81.5	34.5
1958.....	160.1	21.4	181.5	234.2	4.2	238.4	36.9	26.4	63.3	74.1	5.3	79.4	98.5	40.1
1959.....	167.0	24.9	191.9	55.3	3.9	59.2	45.0	28.1	73.1	77.0	12.8	89.8	95.0	24.4
1960.....	181.0	28.1	209.1	91.4	7.5	98.9	39.5	28.6	68.1	56.5	6.4	62.9	59.2	19.4
1961.....	243.7	28.3	272.0	147.6	17.3	164.9	31.8	24.2	56.0	52.0	7.3	59.3	31.2	76.5
1962.....	235.7	33.2	268.9	60.8	11.4	72.2	25.3	22.4	47.7	60.0	9.3	69.3	64.8	21.9
1963.....	261.8	35.3	297.1	99.2	8.7	107.9	28.7	24.3	53.0	70.4	13.7	84.1	44.2	38.6
1964.....	294.6	42.1	336.7	146.2	17.8	164.0	24.2	24.1	48.3	54.5	13.8	68.3	23.9	40.6
1965.....	356.4	24.6	381.0	96.5	15.6	112.1	30.6	24.6	55.2	54.2	18.3	72.5	39.8	41.5
1966.....	414.3	39.2	453.5	139.0	15.0	154.0	35.0	29.0	64.0	72.7	19.6	92.3	64.8	50.1
1967.....	352.9	32.2	385.1	150.7	54.2	204.9	50.7	36.1	86.8	58.5	17.9	76.4	99.6	89.7
1968.....	342.7	31.6	374.3	204.5	43.4	247.9	48.2	39.4	87.6	87.0	30.4	117.4	127.6	91.1
1969.....	401.3	36.8	438.1	189.7	30.9	220.6	59.7	43.9	103.6	85.4	31.6	117.0	128.9	103.8
1970.....	396.0	53.3	449.3	205.6	40.5	246.1	59.8	40.2	100.0	70.9	29.5	100.4	229.8	189.5
1971.....	439.9	34.2	474.1	359.5	17.5	372.0	50.7	44.2	94.9	87.2	26.1	113.3	220.5	259.1
1972.....	559.8	28.1	587.9	410.7	34.3	445.0	62.2	50.8	113.0	90.0	28.7	118.7	277.2	146.7

(1) 1951-1970 are actual expenditures; 1971 and 1972 are respectively preliminary estimates and intentions. — 1951-1970 représentent les chiffres définitifs; 1971 et 1972 sont respectivement des chiffres provisoires et des prévisions.

(2) In this tabulation no attempt has been made to provide a breakdown of total capital expenditures into construction and machinery and equipment. The nature of the structure of oil refineries and gas processing plants does not permit such a distinction once erected. — Pour ces séries, nous avons fait aucune distinction entre la construction et les machines et l'outillage. La structure des raffineries de pétrole et des usines de dégazolinage du gaz naturel, une foi érigée, ne permet pas une telle distinction.

(3) These figures have been revised back to 1961 based on a change in concepts and on the use of a special survey questionnaire for the industry beginning in 1965. — En 1965, un changement de concept ainsi qu'un nouveau questionnaire propre à cette industrie fut introduit et par conséquent nous avons reviser ces chiffres en arrières jusqu'à l'année 1961.

(4) Capital expenditures made by oil and gas drilling contractors are also included back to 1961. Geological and geophysical operations are not included in these figures. — Les dépenses en immobilisation des entrepreneurs en forages de puits de pétrole et de gaz sont comptées à partir de 1961. Les opérations géologiques et géophysiques sont exclues de ces chiffres.